



*Full credit is given to the above companies including the OS that this PDF file was generated!*

## **Red Hat Enterprise Linux Release 9.2 Manual Pages on 'RAND\_OpenSSL.3oss1' command**

**\$ man RAND\_OpenSSL.3oss1**

RAND\_SET\_RAND\_METHOD(3oss1)      OpenSSL      RAND\_SET\_RAND\_METHOD(3oss1)

### NAME

RAND\_set\_rand\_method, RAND\_get\_rand\_method, RAND\_OpenSSL - select RAND method

### SYNOPSIS

```
#include <openssl/rand.h>
```

The following functions have been deprecated since OpenSSL 3.0, and can be hidden entirely by defining OPENSSL\_API\_COMPAT with a suitable version value, see openssl\_user\_macros(7):

```
RAND_METHOD *RAND_OpenSSL(void);
```

```
int RAND_set_rand_method(const RAND_METHOD *meth);
```

```
const RAND_METHOD *RAND_get_rand_method(void);
```

### DESCRIPTION

All of the functions described on this page are deprecated.

Applications should instead use RAND\_set\_DRBG\_type(3), EVP\_RAND(3) and EVP\_RAND(7).

A `RAND_METHOD` specifies the functions that OpenSSL uses for random number generation.

`RAND_OpenSSL()` returns the default `RAND_METHOD` implementation by OpenSSL. This implementation ensures that the PRNG state is unique for each thread.

If an `ENGINE` is loaded that provides the `RAND` API, however, it will be used instead of the method returned by `RAND_OpenSSL()`. This is deprecated in OpenSSL 3.0.

`RAND_set_rand_method()` makes `meth` the method for PRNG use. If an `ENGINE` was providing the method, it will be released first.

`RAND_get_rand_method()` returns a pointer to the current `RAND_METHOD`.

## THE `RAND_METHOD` STRUCTURE

```
typedef struct rand_meth_st {  
    int (*seed)(const void *buf, int num);  
    int (*bytes)(unsigned char *buf, int num);  
    void (*cleanup)(void);  
    int (*add)(const void *buf, int num, double entropy);  
    int (*pseudorand)(unsigned char *buf, int num);  
    int (*status)(void);  
} RAND_METHOD;
```

The fields point to functions that are used by, in order, `RAND_seed()`, `RAND_bytes()`, internal `RAND` cleanup, `RAND_add()`, `RAND_pseudo_rand()` and `RAND_status()`. Each pointer may be `NULL` if the function is not implemented.

RAND\_set\_rand\_method() returns 1 on success and 0 on failure.

RAND\_get\_rand\_method() and RAND\_OpenSSL() return pointers to the respective methods.

#### SEE ALSO

EVP RAND(3), RAND\_set\_DRBG\_type(3), RAND\_bytes(3), ENGINE\_by\_id(3),  
EVP RAND(7), RAND(7)

#### HISTORY

All of these functions were deprecated in OpenSSL 3.0.

#### COPYRIGHT

Copyright 2000-2021 The OpenSSL Project Authors. All Rights Reserved.

Licensed under the Apache License 2.0 (the "License"). You may not use this file except in compliance with the License. You can obtain a copy in the file LICENSE in the source distribution or at <https://www.openssl.org/source/license.html>.

3.0.7                    2023-07-13    RAND\_SET\_RAND\_METHOD(3ossl)